

## CLAIMS

1. A fuel cell system for a portable electronic device, comprising:
  - a fuel cell capable of operating on hydrogen that is obtained from methanol;
  - 5 a reservoir for storing a supply of methanol, suitably connected to the fuel cell, wherein a fuel quantity measuring means is located within the reservoir, wherein the fuel quantity measuring means comprises:
    - an acoustic transmitter for transmitting an acoustic signal within the reservoir, and
    - 10 an acoustic receiver for receiving the acoustic signal, wherein the fuel quantity measuring means is adapted to:
      - measure a response at the acoustic receiver, and
      - cross reference the measured response to a lookup table which provides the corresponding fuel level.

2. A fuel cell system for a portable electronic device, comprising:  
a fuel cell that operates on hydrogen obtained from a liquid hydrocarbon fuel;  
and

5 a reservoir for containing a supply of the liquid hydrocarbon fuel, said reservoir  
connected to the fuel cell, wherein a sensing means for measuring the amount of liquid  
hydrocarbon fuel that is present is located within the reservoir, wherein the sensing  
means comprises:

an acoustic transmitter for transmitting an acoustic signal within the  
10 reservoir, and

an acoustic receiver for receiving the acoustic signal, wherein the  
sensing means is adapted to:

measure a response at the acoustic receiver, and  
cross reference the measured response to a lookup table which  
15 provides the corresponding fuel level.

3. The fuel cell system as recited in claim 2, further comprising an indicia  
readable by a human user of the portable electronic device, wherein the indicia  
comprises a display for displaying the fuel level.

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